

**CLOSED
CITY OF HELENA LANDFILL
LICENSE NUMBER 90**

HYDROMETRICS

**STATISTICAL EVALUATION OF SEPTEMBER
2002 AND DECEMBER 2002 GROUNDWATER
QUALITY DATA**

MARCH 2003

**IS LOCATED IN THE GROUNDWATER
MONITORING REPORTS ARCHIVE,
BOX NUMBER 4**

RECEIVED 5/12/2003

**CLOSED
CITY OF HELENA LANDFILL
LICENSE NUMBER 90**

HYDROMETRICS

**RESULTS OF DECEMBER 2002
GROUNDWATER SAMPLING**

FEBRUARY 2003

**IS LOCATED IN THE GROUNDWATER
MONITORING REPORTS ARCHIVE,
BOX NUMBER 4**

RECEIVED 2/27/2003

THE
UNIVERSITY OF CHICAGO
LIBRARY

1955

THE UNIVERSITY OF CHICAGO
LIBRARY

1955

THE UNIVERSITY OF CHICAGO
LIBRARY

1955



Hydrometrics, Inc.®
consulting scientists, engineers, and contractors

Lewis & Clark Co
City of Helena # 90
grd wtr mon (corresp)
2727 Airport Road
Helena, MT 59601
(406) 443-4150
Fax: (406) 443-1252 E. Bldg.
(406) 443-0760 S. Bldg.
(406) 443-4155 W. Bldg.
www.hydrometrics.com

November 25, 2002

Ms. Pat Potts
Montana Department of Environmental Quality
Permitting and Compliance Division
WMD / SWP
P.O. Box 200901
Helena, MT 59620

RECEIVED

NOV 27 2002

MONTANA
DEPT. OF ENVIRONMENTAL QUALITY
COMMUNITY SERVICES BUREAU

Dear Pat,

Enclosed for your review are the proposed monitoring sites and analytical schedule for the December 2002 semiannual groundwater monitoring at the Helena Landfill. The only changes from the June 2002 sampling regime is the replacement of well 18 with well 19 in the same area as the homeowner of well 18 no longer uses that well and changing the DI blank to a trip blank. Please call if you have any questions or comments.

Sincerely,

Jodi Bingham, P.E.
Environmental Engineer/Chemist

c: John Rundquist, City of Helena
Mike Wignot, Hydrometrics

WORLDWIDE TRAVEL AND TOURS

1000 North
 1000 North
 1000 North

Table 1	Table 2
Table 1 VOC only	Table 2 VOC only
Table 1 VOC only	Table 2 VOC only
Table 1 VOC only	Table 2 VOC only
Table 1 VOC only	Table 2 VOC only

**HELENA LANDFILL
DECEMBER 2002 SAMPLE SITE AND PARAMETER LIST**

Site Name	Parameter
Monitoring Wells ⁽¹⁾	
83-6	Table 1
HL-94-1	Table 1
I-1	Table 1 VOC's only
HL-94-2	Table 1
HL-90-3	Table 1
HL-90-3 (duplicate)	Table 1
INF. GALLERY	Table 1 VOC's only
HL-94-3	Table 1
MPC-2	Table 1 VOC's only
HL-90-2	Table 1
HL-99-3	Table 1
EPA-1	Table 1
HL-99-2	Table 1
MPC-1	Table 1
MPC-5	Table 1
HL-99-1	Table 1
I-4	Table 1 VOC's only
HL-90-1	Table 1
Residential Wells:	
5	Table 1 VOC's only
19	Table 1 VOC's only
40	Table 1 VOC's only
48	Table 1 VOC's only
52	Table 1 VOC's only
57	Table 1 VOC's only
62	Table 1 VOC's only
90	Table 1 VOC's only
Quality Control:	
Trip Blank	Table 1
Rinsate Blank	Table 1

(1) Monitoring wells are listed in the order to be sampled.

**CLOSED
CITY OF HELENA LANDFILL
LICENSE NUMBER 90**

HYDROMETRICS

**RESULTS OF SEPTEMBER 2002
GROUNDWATER SAMPLING**

NOVEMBER 2002

**IS LOCATED IN THE GROUNDWATER
MONITORING REPORTS ARCHIVE,
BOX NUMBER 4**

RECEIVED 11/21/2002



THE
OFFICE OF THE
ATTORNEY GENERAL

MEMORANDUM

TO THE HONORABLE
THE ATTORNEY GENERAL

FROM THE
SOLICITOR GENERAL

RE: THE
MATTER OF THE
SOLICITOR GENERAL

DATE: 1964

**CLOSED
CITY OF HELENA LANDFILL
LICENSE NUMBER 90**

HYDROMETRICS

**STATISTICAL EVALUATION OF MARCH AND
JUNE 2002 GROUNDWATER QUALITY DATA**

SEPTEMBER 2002

**IS LOCATED IN THE GROUNDWATER
MONITORING REPORTS ARCHIVE,
BOX NUMBER 4**

RECEIVED 10/7/2002



Hydrometrics, Inc.®

consulting scientists, engineers, and contractors

Lewis & Clark Co
City of Helena #90
Gnd wtr mon (corresp)
ANALY
2727 Airport Road
Helena, MT 59601
(406) 443-4150
Fax: (406) 443-1252 E. Bldg.
(406) 443-0760 S. Bldg.
(406) 443-4155 W. Bldg.
www.hydrometrics.com

October 1, 2002

Ms. Pat Potts
Environmental Specialist
Department of Environmental Quality
Permitting and Compliance Division
Community Services Bureau
WMS/SWP
P.O. Box 200901
Helena, MT 59620

RECEIVED

OCT 07 2002

MONTANA
DEPT. OF ENVIRONMENTAL QUALITY
COMMUNITY SERVICES BUREAU

**RE: LEWIS & CLARK COUNTY, CITY OF HELENA CLASS II (INACTIVE)
LANDFILL – LICENSE NO. 90
GROUND WATER MONITORING – RESAMPLE OF WELL 52 FOR JUNE
2002 SAMPLING EVENT.**

Dear Ms. Potts:

This letter is in regards to your letter to John Rundquist of the City of Helena dated August 26, 2002 detailing your concerns about the June 2002 sampling event and specifically your request that we resample well 52. As you are aware, the concentration of methylene chloride detected in well 52 for the June 2002 sampling event was 5.8 ppb and exceeded the maximum contaminate level of 5 ppb. As we mentioned in our response to your comments, Energy Labs indicated that they have had a problem with methylene chloride contamination in bottles distributed from their Helena office. They assured us that they problem had been fixed and agreed to resubmit the laboratory analytical report for that sample with a note indicating possible contamination in the sample vial. A copy of that report is attached to this letter.

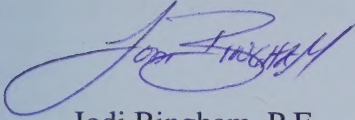
We also agreed to resample that well as soon as possible. Well 52 was re-sampled on September 4, 2002 along with the quarterly groundwater sampling for that project. In conjunction with your comments, we had the lab prepare a trip blank that was carried with the remaining sample bottles throughout the sampling process. The lab reports, sampling forms and field notes are also attached to this letter. You will note that although the methylene chloride concentration in the well 52 sample is below the reporting limit, the trip blank for this sampling event has a methylene chloride concentration of 5.2 mg/L. Since the lab prepared the blank, they are reissuing the laboratory analytical reports to reflect that this contamination is the fault of the lab. The lab also stated that they would initiate corrective action to correct the problem and meanwhile, Hydrometrics will order all future VOC vials from the Billings lab which has not had this problem.

Pat Potts
October 1, 2002
Page 2

The results of the well 52 re-sample indicate methylene chloride is present well below the MCL; therefore, no letter will be sent to the homeowner indicating an exceedance.

If you have any questions or comments concerning this information, please don't hesitate to call.

Sincerely,



Jodi Bingham, P.E.
Environmental Engineer/Chemist

Attachments

c: John Rundquist, City of Helena
Mike Wignot, Hydrometrics



LABORATORY ANALYTICAL REPORT

Client: Hydrometrics Inc-Helena
Project: Proj. No. 1273, City of Helena Landfill
Lab ID: H02060039-006
Client Sample ID: HL-0206-106

Report Date: 09/09/02
Collection Date: 06/05/02 17:00
Date Received: 06/10/02
Matrix: AQUEOUS

#52

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
VOLATILE ORGANIC COMPOUNDS							
Acetone	ND	ug/L		20		SW8260B	06/18/02 21:35 / sbd
Acrylonitrile	ND	ug/L		20		SW8260B	06/18/02 21:35 / sbd
Benzene	ND	ug/L		1.0		SW8260B	06/18/02 21:35 / sbd
Bromochloromethane	ND	ug/L		1.0		SW8260B	06/18/02 21:35 / sbd
Bromodichloromethane	ND	ug/L		1.0		SW8260B	06/18/02 21:35 / sbd
Bromoform	ND	ug/L		1.0		SW8260B	06/18/02 21:35 / sbd
Bromomethane	ND	ug/L		1.0		SW8260B	06/18/02 21:35 / sbd
Carbon disulfide	ND	ug/L		1.0		SW8260B	06/18/02 21:35 / sbd
Carbon tetrachloride	ND	ug/L		1.0		SW8260B	06/18/02 21:35 / sbd
Chlorobenzene	ND	ug/L		1.0		SW8260B	06/18/02 21:35 / sbd
Chlorodibromomethane	ND	ug/L		1.0		SW8260B	06/18/02 21:35 / sbd
Chloroethane	ND	ug/L		1.0		SW8260B	06/18/02 21:35 / sbd
Chloroform	5.5	ug/L		1.0		SW8260B	06/18/02 21:35 / sbd
Chloromethane	ND	ug/L		1.0		SW8260B	06/18/02 21:35 / sbd
1,2-Dibromo-3-chloropropane	ND	ug/L		1.0		SW8260B	06/18/02 21:35 / sbd
1,2-Dibromoethane	ND	ug/L		1.0		SW8260B	06/18/02 21:35 / sbd
Dibromomethane	ND	ug/L		1.0		SW8260B	06/18/02 21:35 / sbd
1,2-Dichlorobenzene	ND	ug/L		1.0		SW8260B	06/18/02 21:35 / sbd
1,4-Dichlorobenzene	ND	ug/L		1.0		SW8260B	06/18/02 21:35 / sbd
trans-1,4-Dichloro-2-butene	ND	ug/L		1.0		SW8260B	06/18/02 21:35 / sbd
Dichlorodifluoromethane	0.94	ug/L	J	1.0		SW8260B	06/18/02 21:35 / sbd
1,1-Dichloroethane	0.46	ug/L	J	1.0		SW8260B	06/18/02 21:35 / sbd
1,2-Dichloroethane	ND	ug/L		1.0		SW8260B	06/18/02 21:35 / sbd
1,1-Dichloroethene	ND	ug/L		1.0		SW8260B	06/18/02 21:35 / sbd
cis-1,2-Dichloroethene	0.36	ug/L	J	1.0		SW8260B	06/18/02 21:35 / sbd
trans-1,2-Dichloroethene	ND	ug/L		1.0		SW8260B	06/18/02 21:35 / sbd
1,2-Dichloropropane	ND	ug/L		1.0		SW8260B	06/18/02 21:35 / sbd
cis-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	06/18/02 21:35 / sbd
trans-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	06/18/02 21:35 / sbd
Ethylbenzene	ND	ug/L		1.0		SW8260B	06/18/02 21:35 / sbd
2-Hexanone	ND	ug/L		20		SW8260B	06/18/02 21:35 / sbd
Iodomethane	ND	ug/L		1.0		SW8260B	06/18/02 21:35 / sbd
Methyl ethyl ketone	ND	ug/L		20		SW8260B	06/18/02 21:35 / sbd
Methyl isobutyl ketone	ND	ug/L		20		SW8260B	06/18/02 21:35 / sbd
Methylene chloride	5.8	ug/L	1	1.0		SW8260B	06/18/02 21:35 / sbd
Styrene	ND	ug/L		1.0		SW8260B	06/18/02 21:35 / sbd
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	06/18/02 21:35 / sbd
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	06/18/02 21:35 / sbd

Report RL - Analyte reporting limit.

Definitions: QCL - Quality control limit.

J - Estimated value. The analyte was present but less than the reporting limit.

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: Hydrometrics Inc-Helena
Project: Proj. No. 1273, City of Helena Landfill
Lab ID: H02060039-006
Client Sample ID: HL-0206-106

Report Date: 09/09/02
Collection Date: 06/05/02 17:00
Date Received: 06/10/02
Matrix: AQUEOUS

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
VOLATILE ORGANIC COMPOUNDS							
Tetrachloroethene	1.8	ug/L		1.0		SW8260B	06/18/02 21:35 / sbd
Toluene	ND	ug/L		1.0		SW8260B	06/18/02 21:35 / sbd
1,1,1-Trichloroethane	0.32	ug/L	J	1.0		SW8260B	06/18/02 21:35 / sbd
1,1,2-Trichloroethane	ND	ug/L		1.0		SW8260B	06/18/02 21:35 / sbd
Trichloroethene	0.32	ug/L	J	1.0		SW8260B	06/18/02 21:35 / sbd
Trichlorofluoromethane	0.38	ug/L	J	1.0		SW8260B	06/18/02 21:35 / sbd
1,2,3-Trichloropropane	ND	ug/L		1.0		SW8260B	06/18/02 21:35 / sbd
Vinyl acetate	ND	ug/L		1.0		SW8260B	06/18/02 21:35 / sbd
Vinyl chloride	ND	ug/L		1.0		SW8260B	06/18/02 21:35 / sbd
m+p-Xylenes	ND	ug/L		1.0		SW8260B	06/18/02 21:35 / sbd
o-Xylene	ND	ug/L		1.0		SW8260B	06/18/02 21:35 / sbd
Surr: 1,2-Dichloroethane-d4	104	%REC			72-116	SW8260B	06/18/02 21:35 / sbd
Surr: Dibromofluoromethane	107	%REC			74-121	SW8260B	06/18/02 21:35 / sbd
Surr: p-Bromofluorobenzene	100	%REC			87-124	SW8260B	06/18/02 21:35 / sbd
Surr: Toluene-d8	102	%REC			85-115	SW8260B	06/18/02 21:35 / sbd

(1) Methylene Chloride presence in sample may be due to the use of contaminated VOA vials used for sampling. Methylene chloride contamination in sampling vials has been seen previously, but, contamination is not indicated within other samples of this sample delivery group.

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
J - Estimated value. The analyte was present but less than the reporting limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

REPORT OF THE BOARD OF DIRECTORS

For the year ended
December 31, 1999
The Board of Directors
of the Company

The Board of Directors
of the Company
has the honor to
present to you
this report.

Statement of Operations		Statement of Financial Position		Statement of Cash Flows	
1999	1998	1999	1998	1999	1998
Net sales	\$100.0	\$100.0	\$100.0	\$100.0	\$100.0
Cost of sales	(40.0)	(40.0)	(40.0)	(40.0)	(40.0)
Gross profit	60.0	60.0	60.0	60.0	60.0
Selling, general & administrative expenses	(20.0)	(20.0)	(20.0)	(20.0)	(20.0)
Interest expense	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)
Other income	2.0	2.0	2.0	2.0	2.0
Income before taxes	37.0	37.0	37.0	37.0	37.0
Income tax expense	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)
Net income	\$27.0	\$27.0	\$27.0	\$27.0	\$27.0
Dividends	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)
Retained earnings	\$22.0	\$22.0	\$22.0	\$22.0	\$22.0
Assets					
Current assets	\$100.0	\$100.0	\$100.0	\$100.0	\$100.0
Long-term assets	0.0	0.0	0.0	0.0	0.0
Liabilities					
Current liabilities	\$40.0	\$40.0	\$40.0	\$40.0	\$40.0
Long-term liabilities	0.0	0.0	0.0	0.0	0.0
Equity					
Common stock	\$20.0	\$20.0	\$20.0	\$20.0	\$20.0
Retained earnings	\$27.0	\$27.0	\$27.0	\$27.0	\$27.0

The accompanying notes are an integral part of these financial statements.



7

LABORATORY ANALYTICAL REPORT

Client: Hydrometrics Inc-Helena
Project: Proj. No. 1273, City of Helena GW
Lab ID: H02090019-001
Client Sample ID: HL-0209-100.Trip Blank

Report Date: 09/16/02
Collection Date: 09/04/02 09:00
Date Received: 09/04/02
Matrix: AQUEOUS

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
VOLATILE ORGANIC COMPOUNDS							
Acetone	16	ug/L	J	20		SW8260B	09/09/02 15:24 / trr
Acrylonitrile	ND	ug/L		20		SW8260B	09/09/02 15:24 / trr
Benzene	ND	ug/L		1.0		SW8260B	09/09/02 15:24 / trr
Bromochloromethane	ND	ug/L		1.0		SW8260B	09/09/02 15:24 / trr
Bromodichloromethane	ND	ug/L		1.0		SW8260B	09/09/02 15:24 / trr
Bromoform	ND	ug/L		1.0		SW8260B	09/09/02 15:24 / trr
Bromomethane	ND	ug/L		1.0		SW8260B	09/09/02 15:24 / trr
Carbon disulfide	ND	ug/L		1.0		SW8260B	09/09/02 15:24 / trr
Carbon tetrachloride	ND	ug/L		1.0		SW8260B	09/09/02 15:24 / trr
Chlorobenzene	ND	ug/L		1.0		SW8260B	09/09/02 15:24 / trr
Chlorodibromomethane	ND	ug/L		1.0		SW8260B	09/09/02 15:24 / trr
Chloroethane	ND	ug/L		1.0		SW8260B	09/09/02 15:24 / trr
Chloroform	ND	ug/L		1.0		SW8260B	09/09/02 15:24 / trr
Chloromethane	ND	ug/L		1.0		SW8260B	09/09/02 15:24 / trr
1,2-Dibromo-3-chloropropane	ND	ug/L		1.0		SW8260B	09/09/02 15:24 / trr
1,2-Dibromoethane	ND	ug/L		1.0		SW8260B	09/09/02 15:24 / trr
Dibromomethane	ND	ug/L		1.0		SW8260B	09/09/02 15:24 / trr
1,2-Dichlorobenzene	ND	ug/L		1.0		SW8260B	09/09/02 15:24 / trr
1,4-Dichlorobenzene	ND	ug/L		1.0		SW8260B	09/09/02 15:24 / trr
trans-1,4-Dichloro-2-butene	ND	ug/L		1.0		SW8260B	09/09/02 15:24 / trr
Dichlorodifluoromethane	ND	ug/L		1.0		SW8260B	09/09/02 15:24 / trr
1,1-Dichloroethane	ND	ug/L		1.0		SW8260B	09/09/02 15:24 / trr
1,2-Dichloroethane	ND	ug/L		1.0		SW8260B	09/09/02 15:24 / trr
1,1-Dichloroethene	ND	ug/L		1.0		SW8260B	09/09/02 15:24 / trr
cis-1,2-Dichloroethene	ND	ug/L		1.0		SW8260B	09/09/02 15:24 / trr
trans-1,2-Dichloroethene	ND	ug/L		1.0		SW8260B	09/09/02 15:24 / trr
1,2-Dichloropropane	ND	ug/L		1.0		SW8260B	09/09/02 15:24 / trr
cis-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	09/09/02 15:24 / trr
trans-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	09/09/02 15:24 / trr
Ethylbenzene	ND	ug/L		1.0		SW8260B	09/09/02 15:24 / trr
2-Hexanone	ND	ug/L		20		SW8260B	09/09/02 15:24 / trr
Iodomethane	ND	ug/L		1.0		SW8260B	09/09/02 15:24 / trr
Methyl ethyl ketone	ND	ug/L		20		SW8260B	09/09/02 15:24 / trr
Methyl isobutyl ketone	ND	ug/L		20		SW8260B	09/09/02 15:24 / trr
Methylene chloride	5.2	ug/L		1.0		SW8260B	09/09/02 15:24 / trr
Styrene	ND	ug/L		1.0		SW8260B	09/09/02 15:24 / trr
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	09/09/02 15:24 / trr
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	09/09/02 15:24 / trr

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.

J - Estimated value. The analyte was present but less than the reporting limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

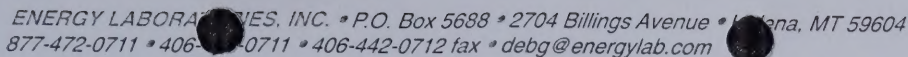
1. The first part of the report is a general introduction to the project. It describes the purpose of the study, the objectives, and the scope of the work. It also provides a brief overview of the methodology used in the research.

2. The second part of the report is a detailed description of the data collection process. It explains how the data was gathered, the sources of the information, and the methods used to ensure its accuracy and reliability.

3. The third part of the report presents the results of the study. It includes a series of tables and graphs that illustrate the findings of the research. The data is analyzed and interpreted in the context of the research objectives.

4. The fourth part of the report is a conclusion and a discussion of the implications of the findings. It summarizes the key results of the study and discusses their significance for the field of research. It also offers suggestions for further research and practical applications of the findings.

Year	Month	Day	Time	Location	Activity	Remarks
1998	Jan	1	08:00	Home	Woke up	Clear weather
1998	Jan	2	08:00	Home	Woke up	Clear weather
1998	Jan	3	08:00	Home	Woke up	Clear weather
1998	Jan	4	08:00	Home	Woke up	Clear weather
1998	Jan	5	08:00	Home	Woke up	Clear weather
1998	Jan	6	08:00	Home	Woke up	Clear weather
1998	Jan	7	08:00	Home	Woke up	Clear weather
1998	Jan	8	08:00	Home	Woke up	Clear weather
1998	Jan	9	08:00	Home	Woke up	Clear weather
1998	Jan	10	08:00	Home	Woke up	Clear weather
1998	Jan	11	08:00	Home	Woke up	Clear weather
1998	Jan	12	08:00	Home	Woke up	Clear weather
1998	Jan	13	08:00	Home	Woke up	Clear weather
1998	Jan	14	08:00	Home	Woke up	Clear weather
1998	Jan	15	08:00	Home	Woke up	Clear weather
1998	Jan	16	08:00	Home	Woke up	Clear weather
1998	Jan	17	08:00	Home	Woke up	Clear weather
1998	Jan	18	08:00	Home	Woke up	Clear weather
1998	Jan	19	08:00	Home	Woke up	Clear weather
1998	Jan	20	08:00	Home	Woke up	Clear weather
1998	Jan	21	08:00	Home	Woke up	Clear weather
1998	Jan	22	08:00	Home	Woke up	Clear weather
1998	Jan	23	08:00	Home	Woke up	Clear weather
1998	Jan	24	08:00	Home	Woke up	Clear weather
1998	Jan	25	08:00	Home	Woke up	Clear weather
1998	Jan	26	08:00	Home	Woke up	Clear weather
1998	Jan	27	08:00	Home	Woke up	Clear weather
1998	Jan	28	08:00	Home	Woke up	Clear weather
1998	Jan	29	08:00	Home	Woke up	Clear weather
1998	Jan	30	08:00	Home	Woke up	Clear weather
1998	Jan	31	08:00	Home	Woke up	Clear weather
1998	Feb	1	08:00	Home	Woke up	Clear weather
1998	Feb	2	08:00	Home	Woke up	Clear weather
1998	Feb	3	08:00	Home	Woke up	Clear weather
1998	Feb	4	08:00	Home	Woke up	Clear weather
1998	Feb	5	08:00	Home	Woke up	Clear weather
1998	Feb	6	08:00	Home	Woke up	Clear weather
1998	Feb	7	08:00	Home	Woke up	Clear weather
1998	Feb	8	08:00	Home	Woke up	Clear weather
1998	Feb	9	08:00	Home	Woke up	Clear weather
1998	Feb	10	08:00	Home	Woke up	Clear weather
1998	Feb	11	08:00	Home	Woke up	Clear weather
1998	Feb	12	08:00	Home	Woke up	Clear weather
1998	Feb	13	08:00	Home	Woke up	Clear weather
1998	Feb	14	08:00	Home	Woke up	Clear weather
1998	Feb	15	08:00	Home	Woke up	Clear weather
1998	Feb	16	08:00	Home	Woke up	Clear weather
1998	Feb	17	08:00	Home	Woke up	Clear weather
1998	Feb	18	08:00	Home	Woke up	Clear weather
1998	Feb	19	08:00	Home	Woke up	Clear weather
1998	Feb	20	08:00	Home	Woke up	Clear weather
1998	Feb	21	08:00	Home	Woke up	Clear weather
1998	Feb	22	08:00	Home	Woke up	Clear weather
1998	Feb	23	08:00	Home	Woke up	Clear weather
1998	Feb	24	08:00	Home	Woke up	Clear weather
1998	Feb	25	08:00	Home	Woke up	Clear weather
1998	Feb	26	08:00	Home	Woke up	Clear weather
1998	Feb	27	08:00	Home	Woke up	Clear weather
1998	Feb	28	08:00	Home	Woke up	Clear weather
1998	Feb	29	08:00	Home	Woke up	Clear weather
1998	Mar	1	08:00	Home	Woke up	Clear weather
1998	Mar	2	08:00	Home	Woke up	Clear weather
1998	Mar	3	08:00	Home	Woke up	Clear weather
1998	Mar	4	08:00	Home	Woke up	Clear weather
1998	Mar	5	08:00	Home	Woke up	Clear weather
1998	Mar	6	08:00	Home	Woke up	Clear weather
1998	Mar	7	08:00	Home	Woke up	Clear weather
1998	Mar	8	08:00	Home	Woke up	Clear weather
1998	Mar	9	08:00	Home	Woke up	Clear weather
1998	Mar	10	08:00	Home	Woke up	Clear weather
1998	Mar	11	08:00	Home	Woke up	Clear weather
1998	Mar	12	08:00	Home	Woke up	Clear weather
1998	Mar	13	08:00	Home	Woke up	Clear weather
1998	Mar	14	08:00	Home	Woke up	Clear weather
1998	Mar	15	08:00	Home	Woke up	Clear weather
1998	Mar	16	08:00	Home	Woke up	Clear weather
1998	Mar	17	08:00	Home	Woke up	Clear weather
1998	Mar	18	08:00	Home	Woke up	Clear weather
1998	Mar	19	08:00	Home	Woke up	Clear weather
1998	Mar	20	08:00	Home	Woke up	Clear weather
1998	Mar	21	08:00	Home	Woke up	Clear weather
1998	Mar	22	08:00	Home	Woke up	Clear weather
1998	Mar	23	08:00	Home	Woke up	Clear weather
1998	Mar	24	08:00	Home	Woke up	Clear weather
1998	Mar	25	08:00	Home	Woke up	Clear weather
1998	Mar	26	08:00	Home	Woke up	Clear weather
1998	Mar	27	08:00	Home	Woke up	Clear weather
1998	Mar	28	08:00	Home	Woke up	Clear weather
1998	Mar	29	08:00	Home	Woke up	Clear weather
1998	Mar	30	08:00	Home	Woke up	Clear weather
1998	Mar	31	08:00	Home	Woke up	Clear weather



Client: Hydrometrics Inc-Helena
Project: Proj. No. 1273, City of Helena GW
Lab ID: H02090019-001
Client Sample ID: HL-0209-100 Trip Blank

Report Date: 09/16/02
Collection Date: 09/04/02 09:00
Date Received: 09/04/02
Matrix: AQUEOUS

Report	RL - Analyte reporting limit.	MCL - Maximum contaminant level.
Definitions:	QCL - Quality control limit.	ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: Hydrometrics Inc-Helena
Project: Proj. No. 1273, City of Helena GW
Lab ID: H02090019-004
Client Sample ID: HL-0209-103

Report Date: 09/16/02
Collection Date: 09/04/02 11:00
Date Received: 09/04/02
Matrix: AQUEOUS

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
VOLATILE ORGANIC COMPOUNDS							
Acetone	ND	ug/L		20		SW8260B	09/10/02 14:19 / trr
Acrylonitrile	ND	ug/L		20		SW8260B	09/10/02 14:19 / trr
Benzene	ND	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
Bromochloromethane	ND	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
Bromodichloromethane	ND	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
Bromoform	ND	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
Bromomethane	ND	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
Carbon disulfide	ND	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
Carbon tetrachloride	ND	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
Chlorobenzene	ND	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
Chlorodibromomethane	ND	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
Chloroethane	ND	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
Chloroform	5.3	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
Chloromethane	ND	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
1,2-Dibromo-3-chloropropane	ND	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
1,2-Dibromoethane	ND	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
Dibromomethane	ND	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
1,2-Dichlorobenzene	ND	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
1,4-Dichlorobenzene	ND	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
trans-1,4-Dichloro-2-butene	ND	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
Dichlorodifluoromethane	1.1	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
1,1-Dichloroethane	ND	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
1,2-Dichloroethane	ND	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
1,1-Dichloroethene	ND	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
cis-1,2-Dichloroethene	ND	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
trans-1,2-Dichloroethene	ND	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
1,2-Dichloropropane	ND	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
cis-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
trans-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
Ethylbenzene	ND	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
2-Hexanone	ND	ug/L		20		SW8260B	09/10/02 14:19 / trr
Iodomethane	ND	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
Methyl ethyl ketone	ND	ug/L		20		SW8260B	09/10/02 14:19 / trr
Methyl isobutyl ketone	ND	ug/L		20		SW8260B	09/10/02 14:19 / trr
Methylene chloride	0.61	ug/L	T-J	1.0		SW8260B	09/10/02 14:19 / trr
Styrene	ND	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	09/10/02 14:19 / trr

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.
T - The analyte was detected in the associated trip blank.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: Hydrometrics Inc-Helena
Project: Proj. No. 1273, City of Helena GW
Lab ID: H02090019-004
Client Sample ID: HL-0209-103

Report Date: 09/16/02
Collection Date: 09/04/02 11:00
Date Received: 09/04/02
Matrix: AQUEOUS

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
VOLATILE ORGANIC COMPOUNDS							
Tetrachloroethene	2.5	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
Toluene	ND	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
1,1,1-Trichloroethane	ND	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
1,1,2-Trichloroethane	ND	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
Trichloroethene	ND	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
Trichlorofluoromethane	ND	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
1,2,3-Trichloropropane	ND	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
Vinyl acetate	ND	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
Vinyl chloride	ND	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
m+p-Xylenes	ND	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
o-Xylene	ND	ug/L		1.0		SW8260B	09/10/02 14:19 / trr
Surr: 1,2-Dichloroethane-d4	98.4	%REC			70-130	SW8260B	09/10/02 14:19 / trr
Surr: Dibromofluoromethane	98.8	%REC			77-126	SW8260B	09/10/02 14:19 / trr
Surr: p-Bromofluorobenzene	98.8	%REC			76-127	SW8260B	09/10/02 14:19 / trr
Surr: Toluene-d8	116	%REC			79-122	SW8260B	09/10/02 14:19 / trr

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

WATER RESOURCES DIVISION

Division of Water Resources
 Department of the Interior
 Washington, D.C. 20540

Division of Water Resources
 Department of the Interior
 Washington, D.C. 20540

Station	Year	Flow (cfs)	Stage (ft)	Remarks
1	1950	100	10.0	
2	1951	120	10.5	
3	1952	150	11.0	
4	1953	180	11.5	
5	1954	200	12.0	
6	1955	220	12.5	
7	1956	250	13.0	
8	1957	280	13.5	
9	1958	300	14.0	
10	1959	320	14.5	
11	1960	350	15.0	
12	1961	380	15.5	
13	1962	400	16.0	
14	1963	420	16.5	
15	1964	450	17.0	
16	1965	480	17.5	
17	1966	500	18.0	
18	1967	520	18.5	
19	1968	550	19.0	
20	1969	580	19.5	
21	1970	600	20.0	
22	1971	620	20.5	
23	1972	650	21.0	
24	1973	680	21.5	
25	1974	700	22.0	
26	1975	720	22.5	
27	1976	750	23.0	
28	1977	780	23.5	
29	1978	800	24.0	
30	1979	820	24.5	
31	1980	850	25.0	
32	1981	880	25.5	
33	1982	900	26.0	
34	1983	920	26.5	
35	1984	950	27.0	
36	1985	980	27.5	
37	1986	1000	28.0	
38	1987	1020	28.5	
39	1988	1050	29.0	
40	1989	1080	29.5	
41	1990	1100	30.0	
42	1991	1120	30.5	
43	1992	1150	31.0	
44	1993	1180	31.5	
45	1994	1200	32.0	
46	1995	1220	32.5	
47	1996	1250	33.0	
48	1997	1280	33.5	
49	1998	1300	34.0	
50	1999	1320	34.5	
51	2000	1350	35.0	
52	2001	1380	35.5	
53	2002	1400	36.0	
54	2003	1420	36.5	
55	2004	1450	37.0	
56	2005	1480	37.5	
57	2006	1500	38.0	
58	2007	1520	38.5	
59	2008	1550	39.0	
60	2009	1580	39.5	
61	2010	1600	40.0	
62	2011	1620	40.5	
63	2012	1650	41.0	
64	2013	1680	41.5	
65	2014	1700	42.0	
66	2015	1720	42.5	
67	2016	1750	43.0	
68	2017	1780	43.5	
69	2018	1800	44.0	
70	2019	1820	44.5	
71	2020	1850	45.0	
72	2021	1880	45.5	
73	2022	1900	46.0	
74	2023	1920	46.5	
75	2024	1950	47.0	
76	2025	1980	47.5	
77	2026	2000	48.0	
78	2027	2020	48.5	
79	2028	2050	49.0	
80	2029	2080	49.5	
81	2030	2100	50.0	
82	2031	2120	50.5	
83	2032	2150	51.0	
84	2033	2180	51.5	
85	2034	2200	52.0	
86	2035	2220	52.5	
87	2036	2250	53.0	
88	2037	2280	53.5	
89	2038	2300	54.0	
90	2039	2320	54.5	
91	2040	2350	55.0	
92	2041	2380	55.5	
93	2042	2400	56.0	
94	2043	2420	56.5	
95	2044	2450	57.0	
96	2045	2480	57.5	
97	2046	2500	58.0	
98	2047	2520	58.5	
99	2048	2550	59.0	
100	2049	2580	59.5	

Project Name: City of Helena

HF-FORM-430

Project Code: 1273Sample Team Member(s): W CraneLaboratory Used: EnergySite Designation: #52 HartzeSample Code Number: HL-0209-103Sample Date: 9/4/02Sample Time: 11:00 (military)If Duplicate Sample Collected,Please Record BelowDuplicate Sample Code #: Duplicate Sample Time: Site ConditionsNew Site: Yes ☐ No ☒ Photo taken: Yes ☐ No ☒

Site Type: DRY surface water process water

monitoring well domestic well adit seepspring other: Weather Conditions: calm breeze windyno precip. rain snowclear pt. cloudy overcastAir Temperature: 22 °C °FFor Groundwater Sampleswell volume formula: $V = (TD-SWL) \times (\text{Dia.}^2)$

25

Comments

TD (ft.) Pumping Rate gpmSWL (ft.): no access/pumpingCasing Diameter (I.D.): Water Volume (V) (gal): $V \times 3 = (\text{gal})$ MP Description 15Actual Vol. Removed (gal.) can 15 minutes then sampledWater Level Recovery: slow moderate rapidFor Surface Water Samples

Flow Method: Marsh McBirney Volumetric Flume Weir Estimate

Other Flow or Description: Flow: gpm cfs Staff GageField Parameter Stabilization

Time (military)	Oxidation Reduction Potential (mV)	Dissolved Oxygen (mg/l)	pH	S.C. (µmhos/cm)	Turbidity (n.t.u.)	Temperature (°C)	Additional Parameters or Notes

Turbidity: clear moderate slight verySample Method: grab compositepump bailer other perm. installedField Parameters

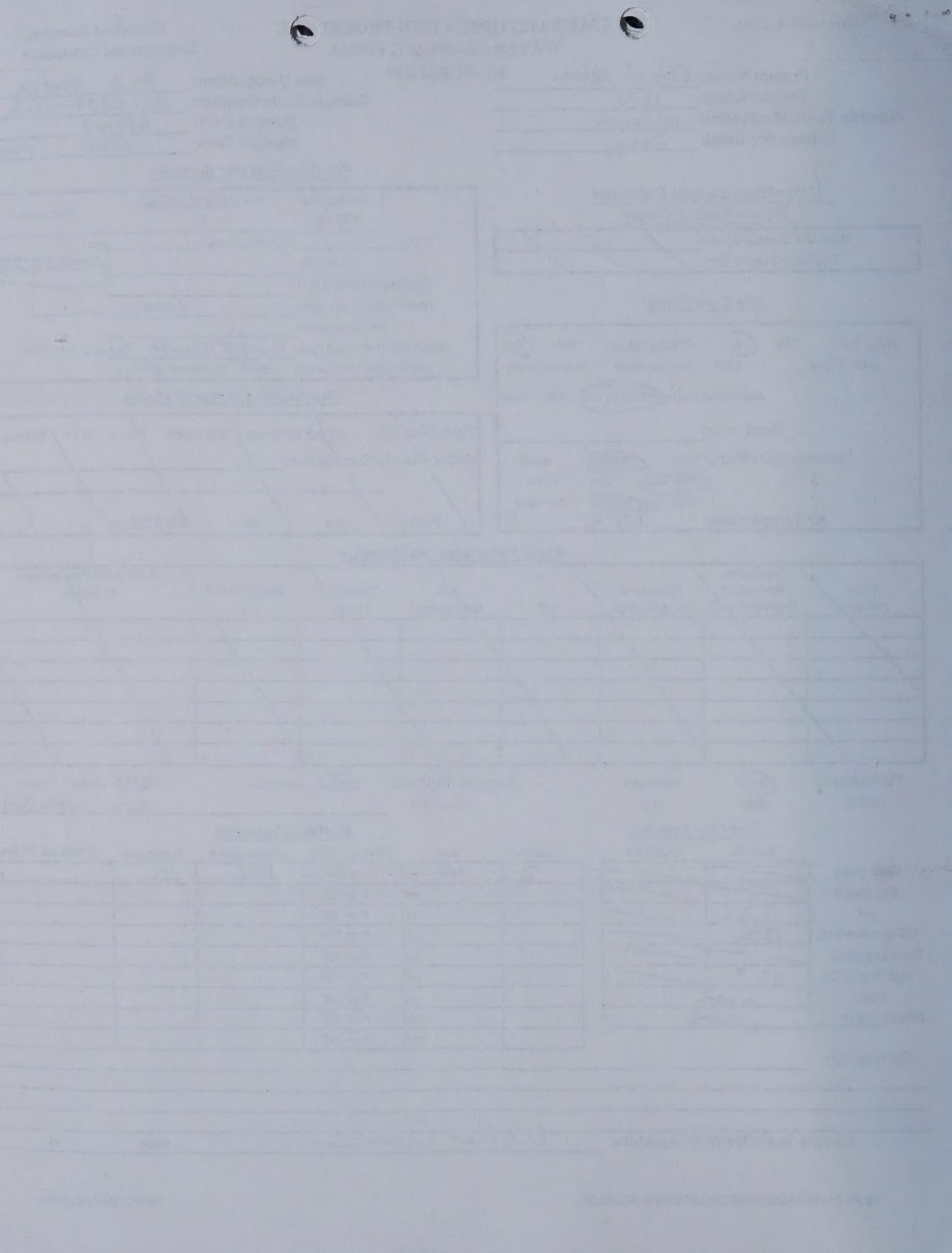
Sample Duplicate

ORP (mV)	<u> </u>	<u> </u>
DO (mg/l)	<u> </u>	<u> </u>
pH	<u>7.29</u>	<u> </u>
SC (µmhos/cm)	<u>1240</u>	<u> </u>
Turbidity (ntu)	<u> </u>	<u> </u>
H ₂ O Tmp. (°C)	<u>12.3</u>	<u> </u>
Color	<u>none</u>	<u> </u>
Other; odor	<u>none</u>	<u> </u>

Bottles Collected

Quantity	Size	Filter or Unfilt.	Preservative	Parameter	Additional Notes
<u>2</u>	<u>40</u> ml	F or <u>UF</u>	<u>HCL</u>	<u>VOC</u>	
	ml	-F or UF			
	ml	F or UF			
	ml	F or UF			
	ml	F or UF			
	ml	F or UF			
	ml	F or UF			
	ml	F or UF			
	ml	F or UF			

Comments: Sample Team Member Signature: Walter CranePage of



Site	Code#	Date Time	SWL' TD'	Bottles/Pres/Analysis	pH/SC/Temp°	Comments
1 Trip Blank	HL-0209 -100	9/4/02 09:00	— —	2/40/UF/HCL/VOC	—/—/—	Energy Lab prepared trip blank, carried in cooler w/ sampler from start to finish
HL-99-1	HL-0209 -101	9/4/02 09:50	^{no} access 98'	2/40/UF/HCL/VOC	7.29/ 1065 / 11.7	Pumping continuously sampled from sample tap, 22 gpm flow
#48 Barbeau	HL-0209 -102	9/4/02 10:35	— —		7.74/ 1259 / 11.9	Barbeau Residence well been running all AM
#52 Hartze	HL-0209 -103	9/4/02 11:00	— —		7.29/ 1240 / 12.3	Hartze Residence ran 15 minutes then sampled
HL-99-2	HL-0209 -104	9/4/02 11:35	— 118'		7.38/ 813 / 12.1	running continuously sampled from sample tap, 17 gpm
HL-99-3	HL-0209 -105	9/4/02 11:50	— 105'		7.3/ 879 / 11.8	running continuously, sampled from sample tap, 4k gpm flow meter not working
HL-90-1	HL-0209 -106	9/4/02 11:55	60' 60'	NO SAMPLE Water	—/—/— Crane	DRY, NO SAMPLE

11/1/79
10/1/79
10/1/79

10/1/79
10/1/79

10/1/79
10/1/79

10/1/79
10/1/79

10/1/79
10/1/79

10/1/79
10/1/79

10/1/79
10/1/79

10/1/79
10/1/79

10/1/79
10/1/79

10/1/79
10/1/79

10/1/79
10/1/79

10/1/79
10/1/79

10/1/79
10/1/79

10/1/79
10/1/79

10/1/79
10/1/79

10/1/79
10/1/79

10/1/79
10/1/79

10/1/79
10/1/79

10/1/79
10/1/79

10/1/79
10/1/79

10/1/79
10/1/79

10/1/79
10/1/79

10/1/79
10/1/79

10/1/79
10/1/79

10/1/79
10/1/79

10/1/79
10/1/79

10/1/79
10/1/79

10/1/79
10/1/79

10/1/79
10/1/79

10/1/79
10/1/79

10/1/79
10/1/79

10/1/79
10/1/79

10/1/79
10/1/79

10/1/79
10/1/79

10/1/79
10/1/79

9/4/02

Calibration

Beckman Model 10

pH meter SN 219059

Time Standard Temp

Instr.
Reading

08:57 7 22.5°C

7.01

09:00 10 22.3°C

10.04

SC meter Hydac

SN 9202

08:59 1413 72.4°F

1413

SPW 1013 1013 1013 1013 1013

Q100 10 1000 1000 1000 1000
Q100 10 1000 1000 1000 1000
L100 1000 1000 1000 1000 1000
per unit 1000 1000 1000 1000 1000

10/10/05 10/10/05 10/10/05 10/10/05 10/10/05



Hydrometrics, Inc.[®]
consulting scientists, engineers, and contractors

Lewis & Clark Co
City of Helena #90
graduate men (Corresp)
2727 Airport Road
Helena, MT 59601
(406) 443-4150
Fax: (406) 443-1252 E. Bldg.
(406) 443-0760 S. Bldg.
(406) 443-4155 W. Bldg.
www.hydrometrics.com

September 4, 2002

RECEIVED

SEP 09 2002

Ms. Pat Potts
Environmental Specialist
Department of Environmental Quality
Permitting and Compliance Division
Community Services Bureau
WMS/SWP
P.O. Box 200901
Helena, MT 59620

MONTANA
DEPT. OF ENVIRONMENTAL QUALITY
COMMUNITY SERVICES BUREAU

**RE: LEWIS & CLARK COUNTY, CITY OF HELENA CLASS II (INACTIVE)
LANDFILL – LICENSE NO. 90
GROUND WATER MONITORING – REVIEW OF THE JUNE 2002 SAMPLING
EVENT.**

Dear Ms. Potts:

I received a copy of your letter to John Rundquist of the City of Helena dated August 26, 2002 detailing your concerns about the June 2002 sampling event. Below are your comments followed by our response.

COMMENT:

RE-SAMPLE THE HARTZE #52 WELL

The concentration for methylene chloride (dichloromethane) detected in the Hartze well (#52) sample for the June 2002 sampling event exceeded the maximum contaminate level (MCL) of 5 µg/L. You are required to notify the owners of this exceedance [see ARM 17.50.710(4)(a)(iii)]. Concentrations of methylene chloride have only been detected in trace levels in the ground water previously considered to be impacted by the landfill.

Due to the relatively high concentration of methylene chloride in the Hartze #52 well, I strongly suggest this well be promptly re-sampled for VOCs. Low levels of methylene chloride can sometimes be attributed to other sources of contamination, such as the laboratory. Should methylene chloride be detected at or above the MCL/GWPS in the results of the re-sample, the City should consider sampling additional wells in this area. It is my understanding that most of the residents north of Custer Avenue are not on City water and use their private wells for drinking water. As I recall, methylene chloride may have been detected west of the Hartze well area, towards the Fairgrounds/County-State Surplus Shop area.

RESPONSE:

This detection is an isolated incident, both temporally for well #52 and spatially for the June 2002 sampling event. Well #52 (sampled semiannually) has not had a detectable concentration of methylene chloride for the last 10 years. In addition, well #48 (just to the east), well #62 (just to the west) and wells #18 and #40 (upgradient of #52) all had concentrations below the detection limit in the June 2002 sampling event. Any methylene chloride from the Fairgrounds/County-State Surplus Shop area would most likely have been detected in well #62 first, which has never had a detectable concentration of methylene chloride. A call to Energy Labs ruled out dilution factor error and matrix interference; however, the lab did mention that they have had a problem with methylene chloride contamination in bottles distributed from their Helena office. Well #52 will be re-sampled again as soon as possible to confirm or deny the presence of methylene chloride; however, the source, if any, is most likely not the landfill. A copy of the analytical data for the re-sample will be sent to MDEQ as soon as it is received from the lab. The owner of the well will be notified of the exceedance if the re-sample confirms the need.

COMMENT:

GENERAL DATA GAPS

We have observed the following data gaps in our review of the June 2002 sampling event:

- No trip blank was found for the second sampling event in a row. We have no idea where, or under what conditions these samples have been collected, shipped and stored prior to their receipt by the lab. Should there be any cross contamination between sample containers, a trip blank would be a reliable method of verifying such a situation. If you consider the distilled water sample satisfactory to serve as a trip blank, please remember to collect/prepare the sample container(s) before arriving at the site. A trip blank must accompany sample containers to the site, be handled like a sample, and returned with the samples to the laboratory for VOC analysis.
- We need page 2 of the analytical data for the Infiltration Gallery sample analysis.
- We also need page 3 of the lab analysis for the distilled water sample analysis.
- What is sample #114? We found no accompanying field notes for this analytical data.

RESPONSE:

Hydrometrics is in agreement with your comment on trip blanks. We will correct our field procedures accordingly. Page 2 of the analytical data for the Infiltration Gallery sample analysis and page 3 of the lab analysis for the distilled water sample analysis are attached.



As mentioned during the review of previous sampling events, duplicate samples are recorded on the same sampling form as the original sample. Sample #114 is a duplicate of well HL-90-3 and is included on sampling form for sample #111. A copy of the field notes that also contained reference to sample #114 was included in the data validation report you were sent.

COMMENT:

QUARTERLY SAMPLE FROM I-4

The concentration of tetrachloroethene was 10 µg/L in I-4 in the June 2002 sample. This irrigation well is located hydraulically downgradient from the ground water plume remediation system. We strongly encourage the City to include I-4 in the September 2002 quarterly sampling event. The quality of the ground water in this well at the end of the summer 2002 remediation activities should be beneficial in determining the effectiveness of the seasonal remediation system.

RESPONSE:

Irrigation well I-4 has been sampled on an annual basis for the last six years and has always measured 10 or 11 ug/L for PCE. Due to the distance between I-4 and the remediation system and the short time the remediation system has been in operation, we do not feel that sampling I-4 in the September 2002 quarterly sampling event will provide significant data. Well HL-90-1, immediately downgradient of the remediation system has been sampled quarterly during operation of the system and has been used to demonstrate its successful operation.

COMMENT:

REPAIR OR PLUG AND ABANDON MPC-5

MPC and/or their environmental representative company needs to be notified in writing about the damage that has been done to the well by the construction in the area. This well should be repaired or properly plugged and abandoned, as it may serve as a conduit for contaminants to enter the ground water.

RESPONSE:

Mike Larson, the consultant for MPC responsible for the MPC wells located adjacent to the landfill was notified previously by phone on three separate occasions of the problems with well MPC-5. He was called twice during the June sampling event, after which he informed us that their environmental representative in Helena had fixed the well. However, upon receiving this notice, we attempted to re-sample the well and failed to get sampling equipment down to the static water level. Mike was again notified of the problem, but we have yet to hear back from him.

Page 1
Date: 10/10/2019

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for the integrity of the financial system and for the ability to detect and prevent fraud.

The second part of the document outlines the specific procedures for recording transactions. It details the steps involved in the accounting cycle, from identifying the transaction to posting it to the appropriate ledger account. It also discusses the importance of double-checking entries to ensure accuracy.

The third part of the document discusses the role of internal controls in preventing fraud. It explains how a well-designed system of internal controls can help to identify and prevent errors and irregularities before they become a problem. It also discusses the importance of regular audits to ensure that the system is working effectively.

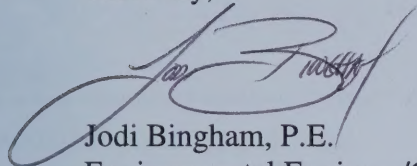
The fourth part of the document discusses the importance of transparency and accountability in financial reporting. It explains how providing clear and accurate information to stakeholders can help to build trust and confidence in the organization. It also discusses the importance of following established standards and guidelines for financial reporting.

The fifth part of the document discusses the importance of ongoing monitoring and evaluation of the financial system. It explains how regular reviews and assessments can help to identify areas for improvement and ensure that the system remains effective and efficient. It also discusses the importance of staying up-to-date on changes in regulations and standards.

Ms. Pat Potts
September 4, 2002
Page 4

If you have additional questions or concerns about the June 2002 sampling event, please don't hesitate to call.

Sincerely,

A handwritten signature in dark ink, appearing to read "Jodi Bingham", with a large, stylized flourish extending from the end of the signature.

Jodi Bingham, P.E.
Environmental Engineer/Chemist

Attachments

c: Mike Wignot, Hydrometrics, Inc.
John Rundquist, City of Helena



LABORATORY ANALYTICAL REPORT

Client: Hydrometrics Inc-Helena
Project: Proj. No. 1273, City of Helena Landfill
Lab ID: H02060039-024
Client Sample ID: HL-0206-125

Report Date: 07/11/02
Collection Date: 06/07/02 16:15
Date Received: 06/10/02
Matrix: AQUEOUS

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
VOLATILE ORGANIC COMPOUNDS							
Trichloroethene	ND	ug/L		1.0		SW8260B	06/19/02 23:01 / sbd
Trichlorofluoromethane	ND	ug/L		1.0		SW8260B	06/19/02 23:01 / sbd
1,2,3-Trichloropropane	ND	ug/L		1.0		SW8260B	06/19/02 23:01 / sbd
Vinyl acetate	ND	ug/L		1.0		SW8260B	06/19/02 23:01 / sbd
Vinyl chloride	ND	ug/L		1.0		SW8260B	06/19/02 23:01 / sbd
m+p-Xylenes	ND	ug/L		1.0		SW8260B	06/19/02 23:01 / sbd
o-Xylene	ND	ug/L		1.0		SW8260B	06/19/02 23:01 / sbd
Surr: 1,2-Dichloroethane-d4	105	%REC			72-116	SW8260B	06/19/02 23:01 / sbd
Surr: Dibromofluoromethane	108	%REC			74-121	SW8260B	06/19/02 23:01 / sbd
Surr: p-Bromofluorobenzene	104	%REC			87-124	SW8260B	06/19/02 23:01 / sbd
Surr: Toluene-d8	101	%REC			85-115	SW8260B	06/19/02 23:01 / sbd

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: Hydrometrics Inc-Helena
Project: Proj. No. 1273, City of Helena Landfill
Lab ID: H02060039-012
Client Sample ID: HL-0206-112

Report Date: 07/11/02
Collection Date: 06/07/02 08:40
Date Received: 06/10/02
Matrix: AQUEOUS

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
VOLATILE ORGANIC COMPOUNDS							
Tetrachloroethene	ND	ug/L		1.0		SW8260B	06/19/02 01:03 / sbd
Toluene	ND	ug/L		1.0		SW8260B	06/19/02 01:03 / sbd
1,1,1-Trichloroethane	ND	ug/L		1.0		SW8260B	06/19/02 01:03 / sbd
1,1,2-Trichloroethane	ND	ug/L		1.0		SW8260B	06/19/02 01:03 / sbd
Trichloroethene	ND	ug/L		1.0		SW8260B	06/19/02 01:03 / sbd
Trichlorofluoromethane	ND	ug/L		1.0		SW8260B	06/19/02 01:03 / sbd
1,2,3-Trichloropropane	ND	ug/L		1.0		SW8260B	06/19/02 01:03 / sbd
Vinyl acetate	ND	ug/L		1.0		SW8260B	06/19/02 01:03 / sbd
Vinyl chloride	ND	ug/L		1.0		SW8260B	06/19/02 01:03 / sbd
m+p-Xylenes	ND	ug/L		1.0		SW8260B	06/19/02 01:03 / sbd
o-Xylene	ND	ug/L		1.0		SW8260B	06/19/02 01:03 / sbd
Surr: 1,2-Dichloroethane-d4	103	%REC			72-116	SW8260B	06/19/02 01:03 / sbd
Surr: Dibromofluoromethane	108	%REC			74-121	SW8260B	06/19/02 01:03 / sbd
Surr: p-Bromofluorobenzene	103	%REC			87-124	SW8260B	06/19/02 01:03 / sbd
Surr: Toluene-d8	103	%REC			85-115	SW8260B	06/19/02 01:03 / sbd

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

**CLOSED
CITY OF HELENA LANDFILL
LICENSE NUMBER 90**

HYDROMETRICS

**RESULTS OF JUNE 2002 GROUNDWATER
SAMPLING**

JULY 2002

**IS LOCATED IN THE GROUNDWATER
MONITORING REPORTS ARCHIVE,
BOX NUMBER 4**

RECEIVED 8/6/2002

UNITED STATES DEPARTMENT OF
THE ARMY
OFFICE OF THE ADJUTANT GENERAL

ADJUTANT GENERAL

REPORT OF THE ADJUTANT GENERAL
ON THE

UNIT

UNIT ADJUTANT GENERAL
UNIT ADJUTANT GENERAL
UNIT ADJUTANT GENERAL

UNIT ADJUTANT GENERAL

**CLOSED
CITY OF HELENA LANDFILL
LICENSE NUMBER 90**

HYDROMETRICS

**RESULTS OF MARCH 2002 GROUNDWATER
SAMPLING**

JUNE 2002

**IS LOCATED IN THE GROUNDWATER
MONITORING REPORTS ARCHIVE,
BOX NUMBER 4**

RECEIVED 6/6/2002

THE
FEDERAL BUREAU OF INVESTIGATION
OF THE DEPARTMENT OF JUSTICE

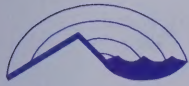
MEMORANDUM

TO : DIRECTOR, FBI (100-372611)
FROM : SAC, NEW YORK (100-100000)

SUBJECT: [REDACTED]

RE: [REDACTED]
[REDACTED]
[REDACTED]

ADMINISTRATIVE



Hydrometrics, Inc.[®]
consulting scientists, engineers, and contractors

Lewis & Clark Co
City of Helena #90
grd wtr mon. (conesp)

2727 Airport Road
Helena, MT 59601
(406) 443-4150
Fax: (406) 443-1252 E. Bldg.
(406) 443-0760 S. Bldg.
(406) 443-4155 W. Bldg.
www.hydrometrics.com

May 22, 2002

Ms. Pat Potts
Montana Department of Environmental Quality
Permitting and Compliance Division
WMD / SWP
P.O. Box 200901
Helena, MT 59620

RECEIVED

MAY 28 2002

MONTANA
DEPT. OF ENVIRONMENTAL QUALITY
COMMUNITY SERVICES BUREAU

Dear Pat,

Enclosed for your review are the proposed monitoring sites and analytical schedule for the June 2002 semiannual groundwater monitoring at the Helena Landfill. There are no changes from the December 2001 sampling regime. Please call if you have any questions or comments.

Sincerely,

Jodi Bingham, P.E.
Environmental Engineer/Chemist

c: John Rundquist, City of Helena
Mike Wignot, Hydrometrics

THE JAPANESE AND THE AMERICAN

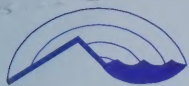
Table 1 VOCs only	Table 2 VOCs only
Table 3 VOCs only	Table 4 VOCs only
Table 5 VOCs only	Table 6 VOCs only
Table 7 VOCs only	Table 8 VOCs only
Table 9 VOCs only	Table 10 VOCs only
Table 11 VOCs only	Table 12 VOCs only
Table 13 VOCs only	Table 14 VOCs only
Table 15 VOCs only	Table 16 VOCs only

HELENA LANDFILL
JUNE 2002 SAMPLE SITE AND PARAMETER LIST

Site Name	Parameter
Monitoring Wells ⁽¹⁾	
83-6	Table 1
HL-94-1	Table 1
I-1	Table 1 VOC's only
HL-94-2	Table 1
HL-90-3	Table 1
HL-90-3 (duplicate)	Table 1
INF. GALLERY	Table 1 VOC's only
HL-94-3	Table 1
MPC-2	Table 1 VOC's only
HL-90-2	Table 1
HL-99-3	Table 1
EPA-1	Table 1
HL-99-2	Table 1
MPC-1	Table 1
MPC-5	Table 1
HL-99-1	Table 1
I-4	Table 1 VOC's only
HL-90-1	Table 1
Residential Wells:	
5	Table 1 VOC's only
18	Table 1 VOC's only
40	Table 1 VOC's only
48	Table 1 VOC's only
52	Table 1 VOC's only
57	Table 1 VOC's only
62	Table 1 VOC's only
90	Table 1 VOC's only
Quality Control:	
DI Blank	Table 1
Rinsate Blank	Table 1

(1) Monitoring wells are listed in the order to be sampled.





Hydrometrics, Inc.[®]
consulting scientists, engineers, and contractors

*Billings + Clark Co
City of Helena # 90
and with mon (corresp)*

2727 Airport Road
Helena, MT 59601
(406) 443-4150
Fax: (406) 443-1252 E. Bldg.
(406) 443-0760 S. Bldg.
(406) 443-4155 W. Bldg.
www.hydrometrics.com

RECEIVED

March 7, 2002

MAR 08 2002

Ms. Pat Potts
Montana Department of Environmental Quality
Permitting and Compliance Division
WMD / SWP
P.O. Box 200901
Helena, MT 59620

MONTANA
DEPT. OF ENVIRONMENTAL QUALITY
COMMUNITY SERVICES BUREAU

Dear Pat,

Enclosed for your review are the proposed monitoring sites and analytical schedule for the March 2002 quarterly groundwater monitoring at the Helena Landfill. Well 48 is being sampled as part of the City's Action Plan for tetrachloroethene (PCE) in downgradient domestic wells. Please call if you have any questions or comments.

Sincerely,

Jodi Bingham, P.E.
Environmental Engineer/Chemist

c: John Rundquist, City of Helena

**HELENA LANDFILL
MARCH 2002 SAMPLE SITE AND PARAMETER LIST**

Site Name	Parameter
Monitoring Wells ⁽¹⁾	
HL-99-3	Table 1 VOC's only
HL-99-2	Table 1 VOC's only
HL-99-1	Table 1 VOC's only
HL-90-1	Table 1 VOC's only
MPC-1	Table 1 VOC's only
48	Table 1 VOC's only

(1) Wells are listed in the order to be sampled.

